INTERNATIONAL ELECTROTECHNICAL COMMISSION

**TECHNICAL COMMITTEE 80: Maritime navigation
and radiocommunication equipment and systems**

Interface Standards for IEC TC 80 Equipment: Review of the process

The document below has been drafted by the TC 80 secretary in agreement with the decisions taken at the TC 80 meeting in St. John's (2001-09). It describes the procedure to follow when referencing or using IEC 61162 series in other standards.

To All Working Groups of IEC TC80

The following procedural document was approved by the Plenary in St Johns Newfoundland and it was agreed to circulate it as the procedure to follow when referencing or using IEC 61162 series in another standard.

Interface Standards for IEC TC80 Equipment
A Review of the process

Introduction :

When the Interface Standard 61162-1 was originally developed the equipment standards generally included a simple statement requiring an interface to be provided, if applicable, to conform to IEC 61162. Since these early days WG6 has developed a series of standards namely 61162 –1Ed 2; 61162-2; 61162-4 series (currently at FDIS) and 61162-3 is proposed. Each of these standards has different application, depending upon the equipment or system.

WG6, when preparing the second edition of 61162-1, included a tabulation of the "Minimum required sentences" for equipment with digital interfaces conforming to IMO resolutions and ITU recommendations. This tabulation was produced about 3 years ago, taking account of other equipment Working Group recommendations and may not be current, depending on the stage of development of individual equipment.

The development of the AIS Equipment Standard (61993 Part 2) has confirmed the need for individual equipment standards to list the essential interface data, which will necessitate a full listing of the minimum sentences associated with the AIS equipment.

WG6 requests the Plenary to endorse this input document and <u>request all relevant Working Groups to note and action as appropriate</u>. Should a Working Group be unsure of which sentences are preferred then WG6 is available to provide guidance.

The following text is drafted to cover the general principles that should be applied to the equipment standards. Part 1 is for inclusion in the first part of a typical standard, which states the base performance; Part 2 would be included in the relevant Test Section.

Part 1 - Interfacing :

a) All relevant interfaces to external sensors and sources, which comply with IMO Resolutions and ITU Recommendations, shall comply with IEC 61162.

b) Relevant equipment standards shall specify and list the minimum sentences that the equipment shall receive as a Listener and transmit (generate) as a Talker.

Note that IEC Standard 61162-1 lists some of the appropriate sentences in the informative Annex A, Table A.1 and Table A.3. These tables are informative only, are not current for all devices, and may not exist in the next edition of 61162-1. Additional guidance on the determination of appropriate sentences may be sought from IEC TC80 WG6.

c) The list of minimum sentences shall include the Approved Sentence Formatter and the single line title or description. There is no requirement to provide more detail, e.g. the sentence structure; this is available, together with all the essential definitions, in IEC 61162-1.

Note that IEC Standard 61162-1 Table 5 contains the full list of all possible Sentence Formatters and their single line descriptions.

d) Any additional interface capability e.g. proprietary input or output sentences shall be tabulated as above, with full documentation.

e) Any critical or unique interface characteristics, e.g. timing, resulting actions or equipment behaviours due to receiving or transmitting a sentence, which are additional to those specified in the IEC interface standard, should be tabulated.

Part 2 - Interface tests :

a) All interfaces that conform to IEC 61162 shall be tested in accordance with the relevant annex of IEC 61162, e.g. Annex C of IEC 61162-1.

b) Any additional interfaces based on IEC 61162 standards shall be tested to the appropriate IEC 61162 standard.

c) All other interfaces shall be tested in accordance with the documentation provided, but shall conform to the general principles of IEC 61162.

d) Any critical or unique interface characteristics, e.g. timing, resulting actions or equipment behaviours due to receipt or transmission of a sentence, shall be identified and include a detailed test method for each critical interface characteristic.

Note: It is recommended that additional informative annexes illustrating unique interface characteristic behaviour be included with the IEC Test Standard. One example would be that any unique relationship between sentences and how the device behaves with regard to that relationship are provided. In IEC 61993-2, for example, a relationship is established between the ALR and TXT sentences. Specific information is provided as to when an ALR sentence should be generated and how the TXT sentence is used to link additional information with a specific Alarm sentence. Another example might be when associating the relationship of internal processes, data, or actions, with specific sentences and, or, fields within the sentences. See IEC 61993-2 Table 8 and Table 9 for examples of this type of information.

For further information contact WG6 via Convenor ; M. P. Fox